



Self Regulated Proper E Liquid Manufacturing

Michael Guasch
President

Molecule Labs, Inc.
Pittsburg, CA USA



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MOLECULE LABS
E LIQUID MANUFACTURING

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Michael Guasch

- 20 years of experience in specialty chemical manufacturing
- Inc. 500 fastest growing privately held companies 3 years in row 2003-2005
- Sold the business to DuPont Chemical Company in 2005
- Continued specialty contract manufacturing for DuPont
- Started E Liquid Manufacturing in 2013



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Overview

- Molecule Labs, Inc. is a contract manufacturer specializing in eliquid manufacturing for branded product lines
- Molecule Labs does not own any brands of eliquid
- Self regulated, proper eliquid manufacturing
- AEMSA Standards, BSI PAS 54115; 2015
- Quality Control
- Improper eliquid manufacturing
- Financial statistics

→ British Standards Institute

By the
contract
manufacturer



Proper eLiquid Manufacturing

- Conform to AEMSA Standards
- Utilize BSI (British Standards Institute) as applicable
- Develop self imposed Standard Operating Procedures
- Batch test as needed
- ISO Certified Cleanroom Manufacturing
- Employee Nicotine Exposure Control



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AEMSA Certified Member



AMERICAN E-LIQUID MANUFACTURING STANDARDS

This picture is on the
AEMSA Home Page



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AEMSA Certified Facility

Certificate of Completion

Hereby presented to



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for successfully completing the requirements to become an

AEMSA CERTIFIED MEMBER # 062015-001

Linc Williams
Chairman of Compliance



June 2015
Date

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British Standards Institute (BSI)

PAS 54115: 2015

Manufacture, importation, testing and labeling Guide

- Vaping products including:
 - electronic cigarettes
 - e-liquids
 - e-shisha
- And directly-related products





Clean and Organized Manufacturing



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ISO Certified Cleanroom



MICROMED LABORATORIES
1129 NORTH MIDWICH DRIVE, COLUMBIA, CA 94924
Phone: 707-782-0792 Web: www.micromedlabs.com

CER CERTIFICATION

Certification Date: 05/29/2014

Facility: Molecule Labs Report #: 2014-713

Location: Pittsburg, CA Tested by: K. Dien/Aliso A.

RECERTIFICATION DUE DATE: 05/2015

CER INFORMATION

CER ID: E-Liquid (CER)

THIS ROOM HAS BEEN CERTIFIED TO:

☒ ISO14644-1 Class: 5 ☐ 6 ☒ 7 ☐ 8 ☐ 9

<input type="checkbox"/> IEST-RP-CC002	<input type="checkbox"/> ANSI/NSF-49 ANNEX F
<input checked="" type="checkbox"/> IEST-RP-CC034	<input type="checkbox"/> ASME N510
<input checked="" type="checkbox"/> IEST-RP-CC006	<input type="checkbox"/> OSHA/ANSI Z9.5
<input type="checkbox"/> OTHER	



Inside the Cleanroom



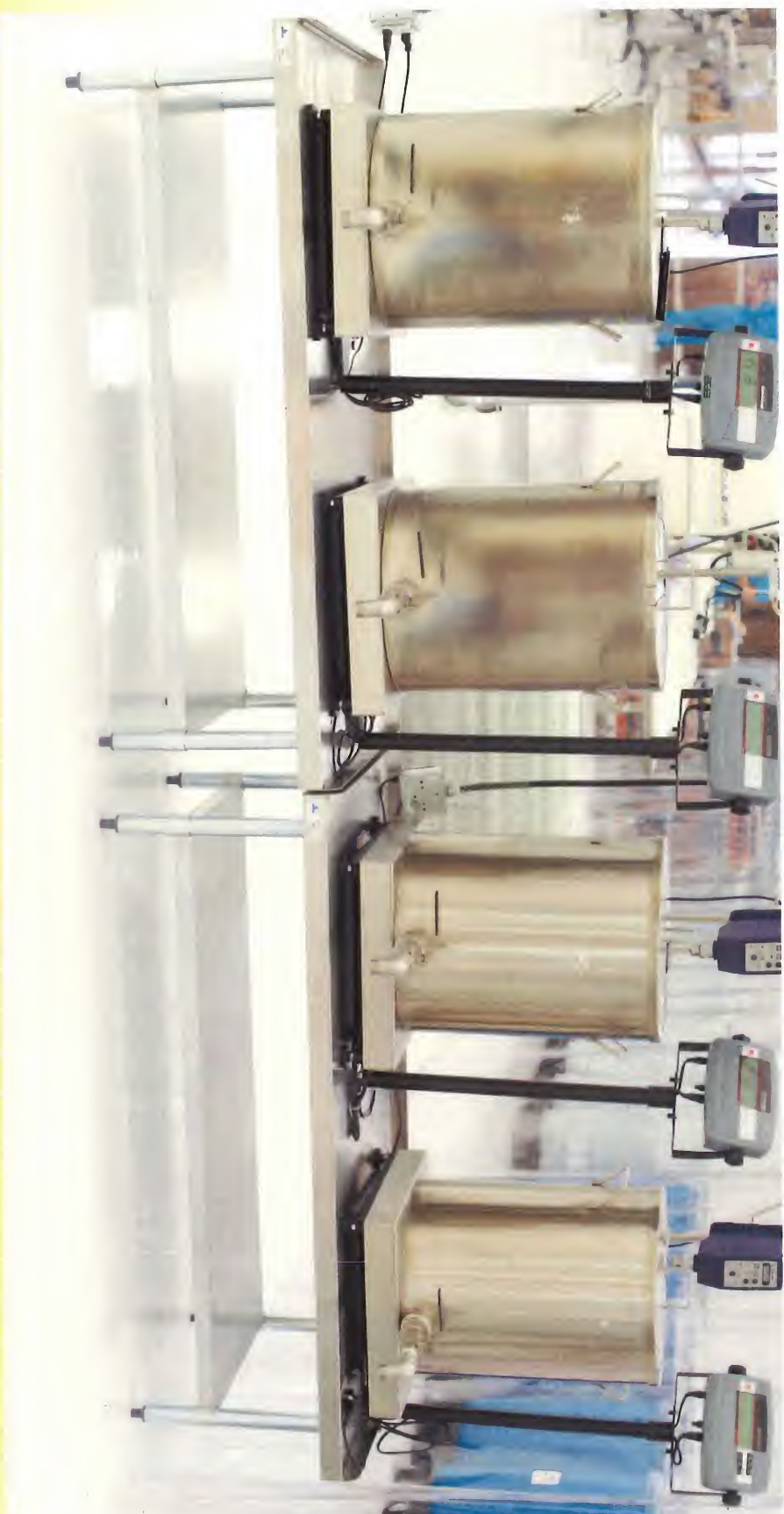
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Small Batch Processing



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Automatic Filling Equipment



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Semi Automatic Filling



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Clean Packaging Storage



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Clean Bulk Storage



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Quality Control Sample Analysis

- Incoming Raw Material (random)
 - Color, smell, clarity
 - Density
 - Refractive Index
 - Nicotine concentration
- Finished Product (random)
 - Color, smell, clarity
 - Density
 - Refractive Index
 - Nicotine concentration



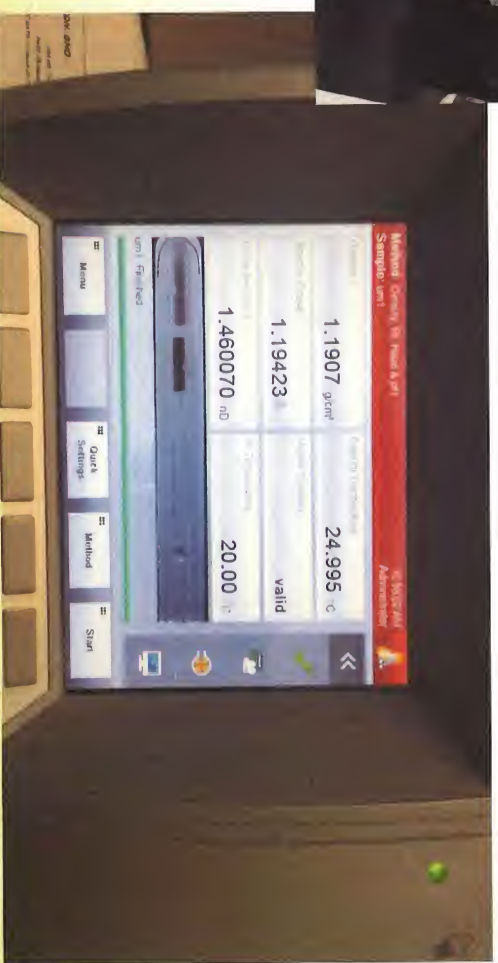


Quality Control per Batch



Testing Apparatus for:

- Density
- Refractive Index
- Allows for Consistent results



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Nicotine Quality Control Tests



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Nicotine Processing Lab



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Worker Safety, Fume Extraction

- Nicotine Fume Extraction
- Extracts nicotine fumes during nicotine processing
- Returns HEPA and Carbon filtered fresh air back into clean room
- All nicotine processing employees are tested for nicotine exposure using air pumps for 8 hour shift



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Nicotine from Kentucky Tobacco

- American Tobacco Farmers are now selling their tobacco for a greater price to the eliquid industry



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Waste Water

- Our rinse water from a 3 mg/ml is <0.100 ND
- Our rinse water from a 18 mg/ml is <0.148
- Triple rinse of 99% nicotine
 - Rinse #1 = .574 ppm (recycled)
 - Rinse #2 = < 0.100 ppm ND
 - Rinse #3 = < 0.100 ppm ND
- Less than 50 gallons per month of <0.148
- 18 mg/ml skus are shrinking weekly
- Environmental Impact, Negligible





Research and Development 2015

- New Chemist
Hired November
2015
- \$250K in R & D
Budget
- \$150K in R&D
Equipment
- Developing
safer flavors



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4 Production Lines



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Everyday Manufacturing



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The Wrong Way



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November 2014

- 9000 more sq. ft.
- 2000 sq. ft. clean room
- \$500K investment
- 12 head fully automatic filling line
- 1MM bottle a mo. capacity



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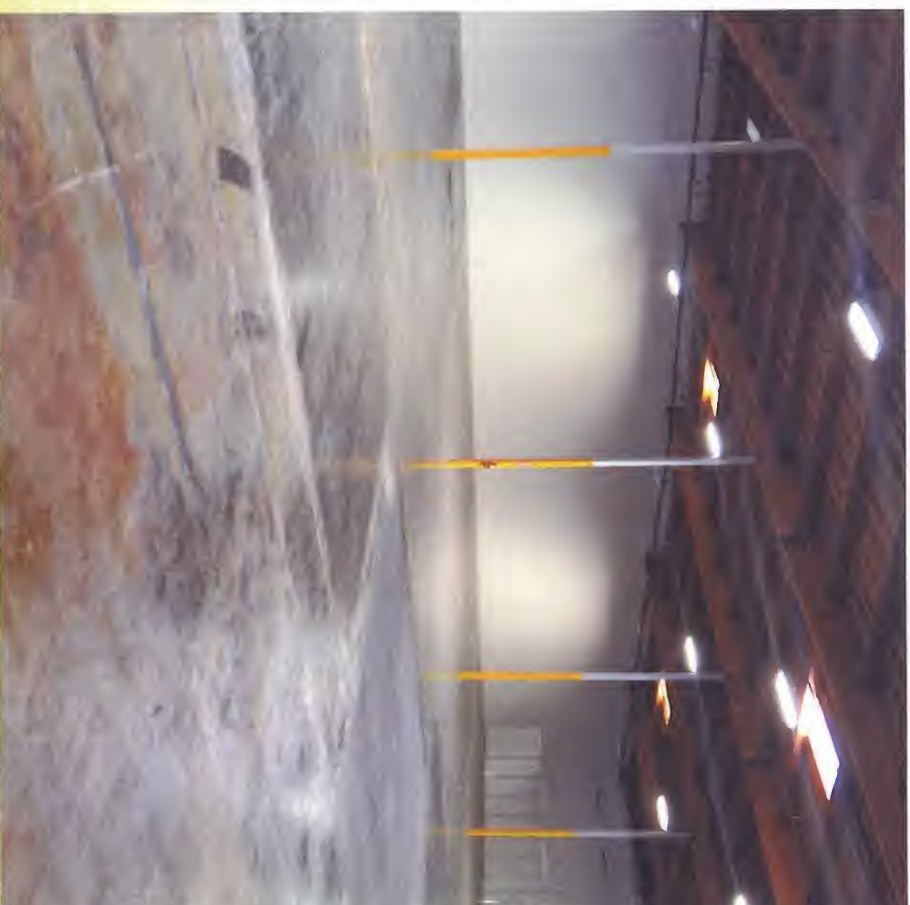
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New Building - November 2015

- 67,000 sq. ft.
- 8000 sq. ft. clean room
- 25,000 sq. ft. manufacturing floor
- \$2 million investment
- 8 line capacity
- 4 MM bottle a mo. capacity
- 22,000 sq. ft. fulfillment center
- 20 new employees



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New Warehouse Build out



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Infrastructure Statistics

2015	2016 projected	2017 projected
<ul style="list-style-type: none">• 21,000 sq. ft. leased building• 40 employees• \$1MM capital expenditures• Increased R&D investment by \$250K• Output capacity 1MM bottles per month	<ul style="list-style-type: none">• 67,000 sq. ft. leased building• 60 employees• \$2MM capital expenditures• Increased R&D investment by \$500K• Output capacity 2MM bottles per month	<ul style="list-style-type: none">• 67,000 sq. ft. leased building• 80 employees• \$.5MM capital expenditures• Increased R&D investment by \$250K yr.• Output capacity 3MM bottles per month





Financial Statistics

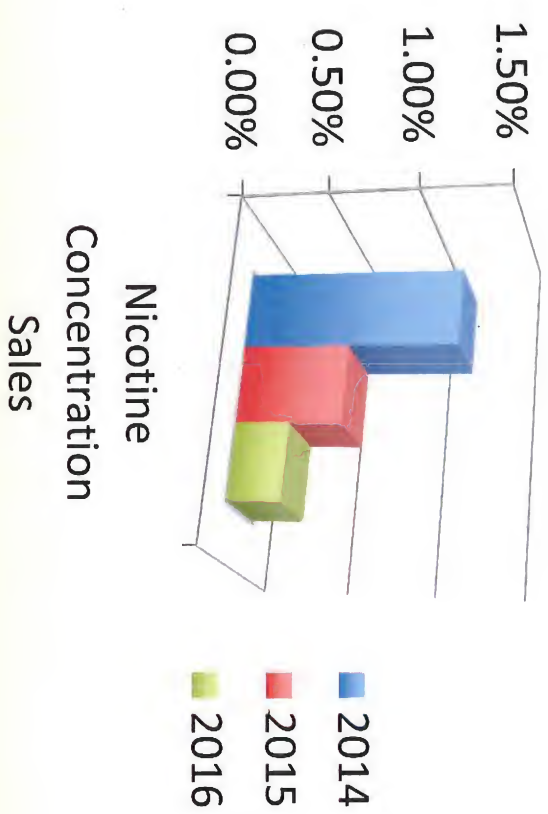
2015	2016	2017
projected	Projected	Projected
<ul style="list-style-type: none">• 9,000,000 bottles produced• Retail value average \$16• Vapor Store	<ul style="list-style-type: none">• 20,000,000 bottles projected• Retail value average \$16• Vapor Store	<ul style="list-style-type: none">• 30,000,000 bottles projected• Retail value average \$16• Vapor Store
Retail sales of \$144 Million	Retail sales of \$320 Million	Retail sales of \$480 Million





Average Nicotine Use Reduction over 3 years (approx.)

- 2014 - 1.2%
- 2015 - .6%
- 2016 - .3% projected



Approx. averages based
on overall sales to
customers





Proposed Deeming Regulations

- We embrace science based regulation to improve the industry and promote public safety
- We feel we will be able to meet the PMTA for manufacturing protocols and non clinical data required
- We are concerned our customers may be unable to meet the PMTA Public Health Population Impact for each product
- Without our customers, we would have no business

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Thank You

Questions?

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